

1841—1897

56 YEARS IN USE

High in Quality

— Low in Price

THE
THOROLD
CEMENT



THE LATE JOHN BATTLE

**With
Compliments
of...**

Estate of John Battle

Thorold, Ont.

INSTRUCTIONS

IN THE USE OF

THOROLD CEMENT

IN ALL CLASSES OF WORK.

ALSO A FEW

TESTIMONIALS

FROM AMONG THE MANY RECEIVED
FROM OUR CUSTOMERS.

2nd 1897 EDITION—4,000.

PUBLISHED BY AND PRESENTED WITH
THE COMPLIMENTS OF

THE ESTATE OF JOHN BATTLE
MANUFACTURERS OF THE THOROLD CEMENT
THOROLD, ONT.

To the Public:

In presenting our Pamphlet for your consideration, we commence by giving you a sketch of the history of the THOROLD CEMENT, which will be found on the following page, and which we trust will prove of interest to our readers.

Further on we give full and complete instructions how to use our THOROLD CEMENT in nearly all kinds of work.

Caution:

As it has come to our knowledge that other Cements have been sold as THOROLD CEMENT, we call your attention to the fact that there is only one THOROLD CEMENT, and that is made at Thorold, Ont., by us. All our barrels and bags are marked "BATTLE'S THOROLD CEMENT." See that you get the genuine.

The Thorold Cement Works

The Thorold Cement Works were established in 1841 by John Brown. Mr. Brown, who had a contract on the Welland Canal, was unfortunately killed during its construction, when the Cement Works passed into the hands of Mr. John Battle. That gentleman died in 1891, since which time the business has been conducted by his sons under the title of the Estate of John Battle. The extensive quarries cover an extent of forty-four acres, and are situated on the east side of the new canal. A steam drill is kept in operation the whole year round, convenient tracks running from the quarries to the kilns, where the burning is done; and then the burnt stone is loaded in wagons and brought to the mill, situated on the old canal, where it is manufactured. The Thorold Cement has more than a provincial reputation. Almost its first introduction was its use in the Victoria Tubular Bridge at Montreal. It was also used exclusively in the building of the old Welland canal, and also in the new Welland Canal, and was used in the Sault Ste. Marie canal, of which W. G. Thompson, Esq., was engineer in charge, and Messrs. Hugh Ryan & Co. were the contractors. It was also extensively used in the construction of the great St. Clair tunnel between Port Huron and Sarnia, of which Joseph Hobson, Esq., of the Grand Trunk Railway, was chief engineer, and Mr. William Gibson, M. P., was contractor. The fact of this Cement having been used in such important works as the foregoing is sufficient evidence of its reliability. Forty hands altogether are employed. The mill is a three-story frame structure, fitted up with all the latest appliances necessary for carrying on the business, and is 150 x 50 feet in extent, with ample storage room for 5,000 barrels.

The following tests of THOROLD CEMENT are the highest tests of any Cements that have ever come under our notice—with the exception of Portland Cements :

Tests of THOROLD CEMENT made by P. A. Peterson, Esq., now Chief Engineer of the Canadian Pacific Railway :

NEAT CEMENT BLOCKS, $1\frac{1}{2}$ INCHES SQUARE AT SMALLEST PART

1881	No. of Bricquette	Time in Air	Time in Water	Tensile Strength
March 31	1	23 days		420 lbs.
"	2	23 "		470 "
"	3	23 "		436 "
"	4	23 "		420 "
"	5	1 "	47 days	420 "
"	6	1 "	47 days	450 "

Tests of THOROLD CEMENT made by the Government during the construction of the Quebec Graving Dock; John E. Boyd, Esq., Engineer in charge :

1884	No. of Sample	Weight of Cubic Foot	No. of Bricquette	Date of Immersion	Date of Test	No. of days in water	Tensile Strength
Oct. 18	2	67 lbs.	7	Oct. 19	Oct. 26	7	450 lbs.
"	2		8	" 19	" 26	7	440 "
Oct. 20	2		9	" 21	" 28	7	350 "
"	2		10	" 21	" 28	7	335 "
Oct. 21	2		11	" 22	" 29	7	310 "
"	2		12	" 22	" 29	7	400 "

How to Build Concrete Walls

For Bank Barns and Basement Barns

WITH THOROLD CEMENT

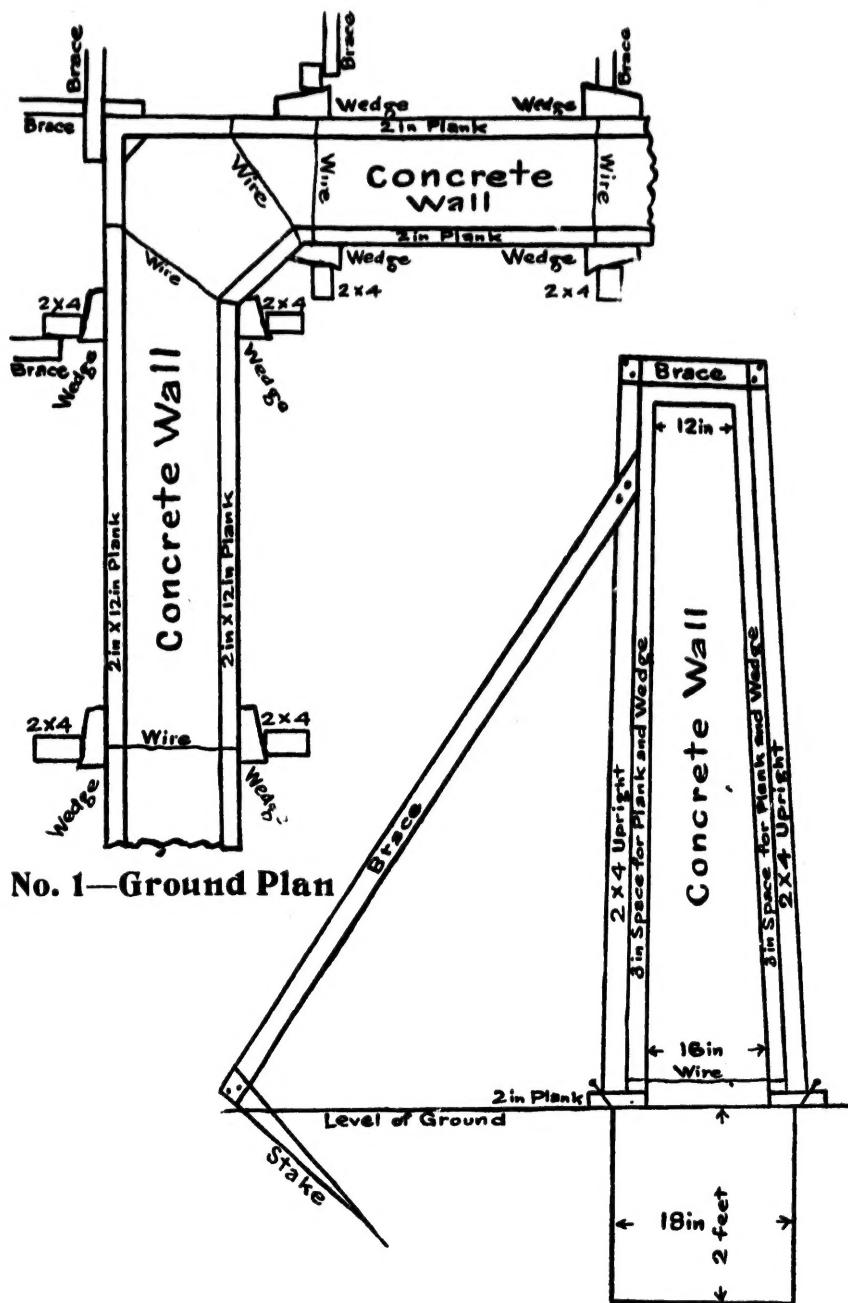
The foundation should be dug to the depth of 2 feet in clay soil, and 1 foot 8 inches in sandy soil. After the trench is dug, take stakes and drive in the ground 2 feet apart, so as to leave room for plank and wedge. Let your stakes come up high enough to tack a strip from each stake to keep them from spreading. Now fill in with concrete and stone or brick-bats, and be careful to have your concrete well rammed down. After the footing course is built to the height required, take out plank and stakes and grade your ground to level of wall.

Now take a plank and lay on footing foundation just 16 inches apart, and take 2-in. x 4-in. scantling and place them upright, five feet apart and opposite to each other, and 3 inches back from face of plank, to allow for plank and wedge, the outside one plumb and the inside one 4-inch batter ; that will make the wall when completed 16 inches at bottom and 1 foot at top, and put wires from each upright at the bottom to keep them from spreading. After the wall is completed these wires may be cut off and left in wall. For small buildings, the wall can be made 1 foot at bottom and 10 inches at top, and will be a saving of material. These uprights should be well braced to each other at top to keep them from spreading, and a brace from top to stake in ground to keep them plumb. If the wall is to be built under the building, you can nail the uprights to sill, and do away with the braces, which are a hindrance to the workmen ; and the wires at bottom will keep them from spreading, and do away with the old, cumbersome way of braces and stakes.

For the corners, take two plank 2 in. x 12 in., the height of wall, and nail them together and stand them upright for outside corner, flush with plank at bottom and well nailed to it ; and take a three-cornered strip and nail in angle so that when the wall is completed it will not leave a sharp corner.

Now, for inside angle of wall take a plank and stand upright diagonally across the angle, and brace to outside plank ; these planks are stationary, and to be left up till wall is completed ; you can then raise your plank on each side of corner separately, and this is far handier than nailing the

Plans for Walls—Barns and Silos



No. 2—Elevation Plan

ends of the plank together ; besides, the plank on inside of angle gives more solidity to the corner when completed. If your wall is quite a height, and your uprights have a tendency to spread in the centre, put wires across and build them into the wall ; these wires can be cut off after wall is completed. In order to do a neat job, get the plank required for building the wall dressed to an even thickness, and it is better to have them 15 inches wide so as to lap down on wall 3 inches, and that will give you a foot raise to the wall every day, and if the building is small you can get the wall completed so much quicker.

When ready to build, place these plank on inside of upright with an inch wedge between the plank and scantling ; the top wedge should have a nail tacked in the end so as to lay over the plank and hang there till the wall, as you build, tightens them between plank and uprights. When ready to put concrete in wall, put in say six inches at a time, and ram it well and add all the stone you can, as the more stone you use the less cement required. This stone should be well hammered in also. The concrete should be well rammed down in wall, and small stone or broken brick hammered down in centre of wall, and should be kept two inches from face of wall, to make a smooth surface and keep the frost out better.

It is a good plan to leave a gutter at top of wall for a week, and keep it full of water, but, as this will only keep the wall damp for a short distance, the wall should be sprayed as often as possible. A common force spray pump can be bought at any hardware or tin shop for \$1.50 or \$2.00. The wall should be kept damp as much as possible, as it makes a stronger job.

Directions for Making Concrete WITH THOROLD CEMENT

Build a platform large enough for the work required. For a building, say 40 ft. x 60 ft., the platform should be 20 ft. square at least ; this platform can be made of inch boards laid on ground, but should be on as level a spot as possible, so that in mixing your concrete the water will not run to one side. Never mix concrete on the ground, as the soil will get mixed with the concrete and be a detriment to the building.

Now, make a box with no bottom in, and three inches smaller at top, just large enough to hold two paper sacks of cement ; if your box is just that size, you need never measure the cement, as every paper sack of

Thorold Cement is guaranteed to weigh 80 lbs. Now, fill this box with gravel and lift it up—the gravel will come out easily ; place it on the boards again and fill five times, so you have your concrete gauged five to one exactly.

The way of measuring with the shovel cannot be done systematically, as you are apt to get it unevenly measured.

Now, mix the gravel and cement up dry thoroughly first, then pile it up about shovel deep with a hole in centre, and put your water in and work the concrete in from the outside. Care should be taken not to get it too sloppy ; in fact, it should be made quite stiff.

The usual proportions of cement and gravel is five to one ; if gravel is coarse, it takes less cement ; if fine it will take more ; if the gravel is very coarse, we would advise the use of some good, sharp sand ; but above all things be sure to have your material free from dirt and loam.

How to Build Hog Pens

WITH THOROLD CEMENT

Build the walls the same as for barns. To lay the floor, drive a pin in each corner next the trough ; then one in each back corner, two inches lower than the front ones ; then another in the centre near the back wall, 4 in. lower than the back pins ; this gives a fall to the centre of the back part of pen, where a tile is built in the wall so as to keep the pen dry and clean. To make the trough, make a box the length and width of trough required ; there should be a bevelled strip of 2 inches nailed to top of box next trough, so that when work is completed it leaves a bevelled edge on trough. Place this on concrete where trough is wanted ; now nail two pieces together V-shaped ; place it in the box to form gutter ; the box is not to have any bottom in ; ram your concrete in this box well ; when set sufficiently hard, take the box apart, and you have a solid trough of concrete. The trough and floors should be composed of 2 of gravel to 1 of cement, and bed in all the stone you can in the concrete.

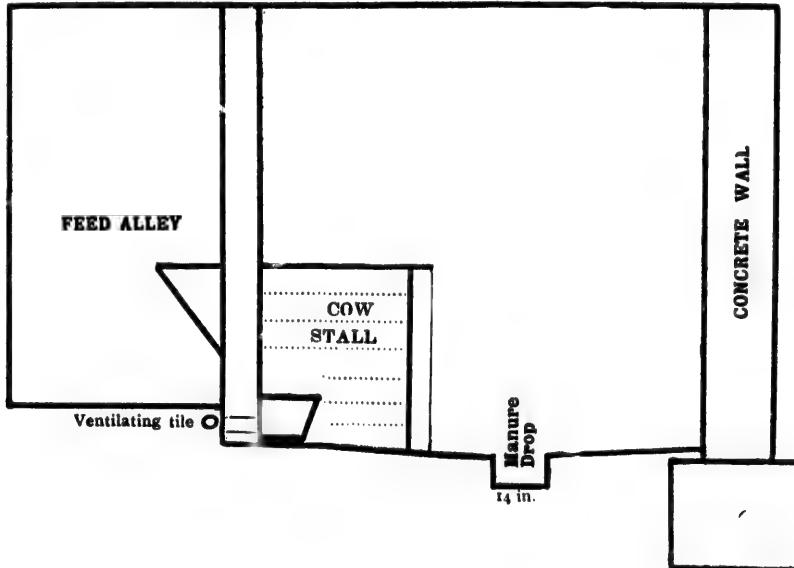
How to Build Feed Alleys

WITH THOROLD CEMENT

It is a good plan to elevate the feed alleys so as to get a tile under the floor for ventilation.

To do so, build a concrete wall in front of manger 6 in. thick and about 12 or 16 inches high. When the wall is sufficiently set, fill in the alleyway, within 3 or 4 in. of height required, with sand or gravel, or if earth is used it should be well rammed so as to guard against settling. Lay a 6 or 8-in. tile along in front of mangers of stalls, and connect this with a 2 or 3-in. T tile, which should be built in concrete wall in front of each stall. There should be a fine wire or zinc sieve built in over each one to keep the feed or dirt from getting in the tile. The large main tile should go through the outside wall, and this lets in the fresh air from outside, and is a very cheap way of ventilating stables. Thickness of floor should be 2 inches.

Plan for Feed Alley and Cow Stable



To Build Cow Stable Floors

WITH THOROLD CEMENT

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Grade off the ground for work required ; put in an inch or so of sand ; don't put in any large stone, as the stone should be put in the concrete and rammed down into it.

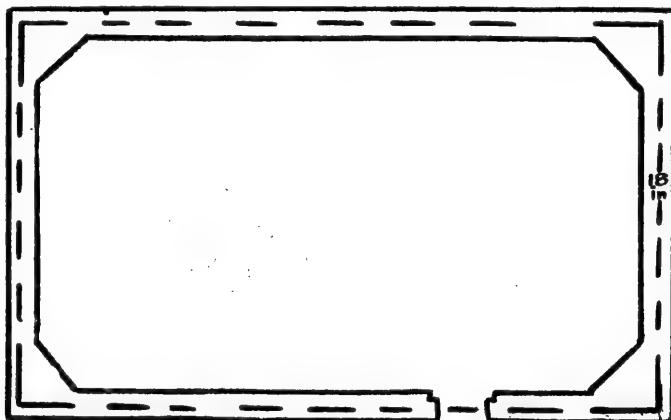
Now lay the bottom of the manure drop first, with concrete at least 6 in. wider than the required width of the gutter. Then take a 2×6 and lay it on its edge on the side of the gutter next to the stalls, and a 2×4 on the other side ; this gives a drop of 6 in. behind the cows. Now nail a 2-in. bevelled piece on the upper side of both scantlings next the concrete, so when these scantlings are taken out it will leave a champered corner of gutter. Saw some pieces of 2×4 to place between scantling to keep them from coming together, and this will hold them to their places. The usual thickness for concrete floors for stables is 4 in. Now stretch a line where the manger comes just two inches higher than the 2×6 scantling at manure drop. This gives a 2-inch fall for the stall. Drive small pins in the ground about three feet apart, just level with the line, so by using a straight edge on these pins and on 2×6 you can get a true and straight grade to the stall. Also make the passage behind the stalls one inch lower next the gutter, so it can be kept easily clean. If there is to be only one stable for all cattle, it is a good plan to have gutter one foot nearer manger at one end, so the large cattle may have long stalls and the young ones the short stalls.

Mix the concrete the same as for walls, only make it $\frac{3}{4}$ of gravel and $\frac{1}{4}$ of cement. Mix a batch of concrete and put it in your stalls 2 or 3 in. thick and level it off even ; and before ramming put in all the broken stone you can and then ram them in the concrete. The more stone you use the less cement required. Now add more concrete and ram it well also, and float off to the grade required. This will give you a solid concrete floor, and is far better than putting loose stone in bottom and the concrete on top. Don't ever attempt to put concrete floor down with sand. Always use gravel, and put it on in one coat and ram it well, and float it off with a wooden float. If the gravel is very coarse, after the floor is down go over it with a very thin coat of mortar composed of $\frac{1}{4}$ of sand and $\frac{1}{4}$ of cement. Do not put this coat on any thicker than $\frac{1}{8}$ or $\frac{1}{16}$ of an inch--just thick enough to smooth off the floor.

How to Build Silos

WITH THOROLD CEMENT

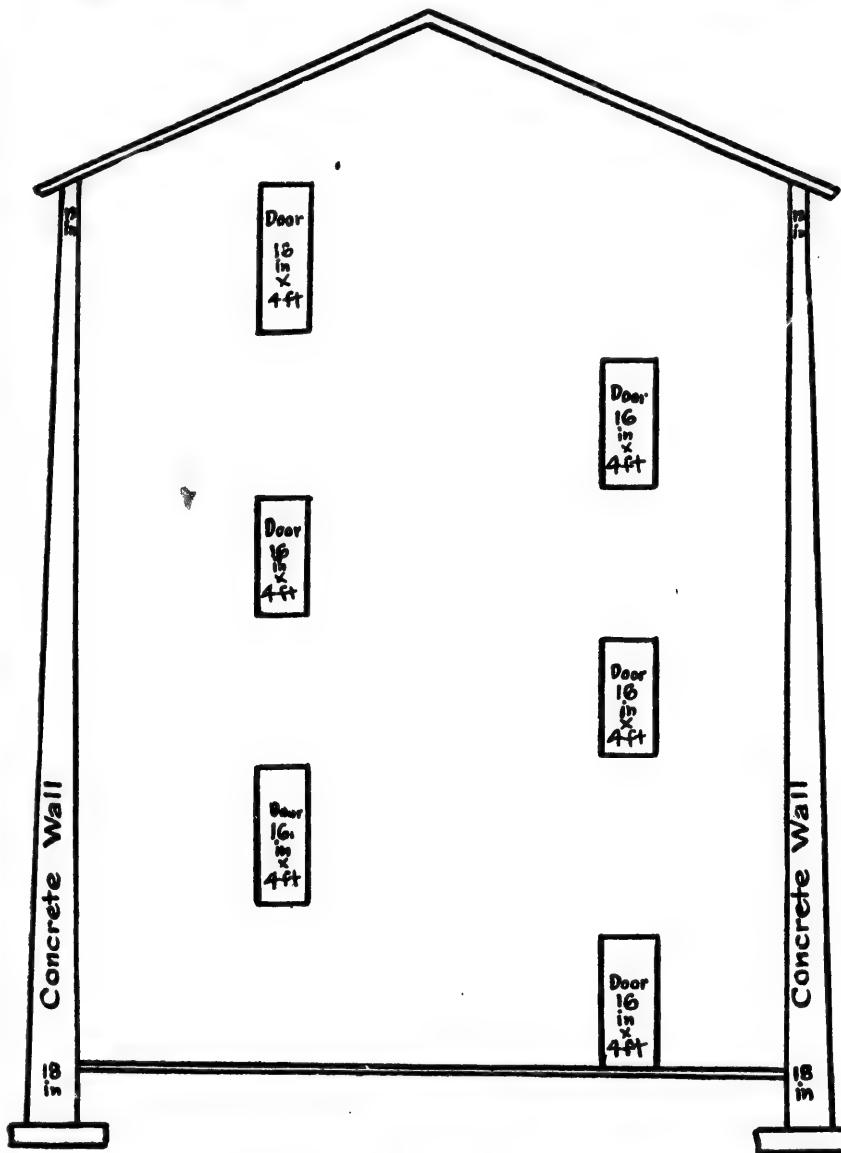
Silos built of concrete are by far the best and cheapest and lasting that can be had. They are built the same as walls for barns, only the walls should be thicker. Footing should be 2 ft. wide, and the wall should be 18 in. at bottom and 1 ft. at top and the batter on outside; the inside of silo should be about an inch narrower at top than at bottom, so as to let the ensilage properly settle. After the footings are built, lay a piece of band-iron (an old wagon tire will answer the purpose) all around the silo with the end of the one turned up and the other turned down about two inches, so this forms a lock and keeps the walls from spreading, and these ties should be put in about every 6 ft. in height. It is by far the best to have the doors of the silo put in as shown on plan than one continuous door from top to bottom, as it gives a stronger support to the silo. The uprights are put up the same as for barn walls. In putting up your uprights, there should be strips nailed across to each one about every six feet high to keep them from spreading, so when the walls are built up to these strips before being driven off there should be a wire put in the place of these and built in the wall. After the work is completed, these wires can be cut off and left in the wall. The door for the silo is usually made of matched inch stuff of two thicknesses with felt paper in between to make them air-tight.



Plan of Wall for Silo

Dotted line is Band Iron.

Elevation Plan of Silo



Silo 26 ft. high x 15 ft. x 15 ft.
Will hold from 115 to 125 tons of Ensilage.

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To Build Horse Stable Floors

WITH THOROLD CEMENT

Drive pins next to manger the height required ; then drive some pins at tail posts, about $1\frac{1}{2}$ or 2 in. lower than those at the manger (using a straight edge on these pins will give a proper grade to stalls). The passage-way behind the horses should be two or three inches lower than stalls where horses stand, with a slight grade from wall towards tail posts. The concrete is put in the same as cow stable floors. Thickness of floor should be 6 inches.

Special to Farmers

Owing to the large and constantly increasing demand for our Thorold Cement among the farming community, we have secured the services of Mr. Norval B. Hagar and Mr. Ward Hagar, who, in addition to being first-class builders and contractors in stone and brickwork and all kinds of masonwork—the former with an experience of 20 years and the latter of 12 years—are also practical farmers, their farms being situated in the Township of Thorold near the Village of Allanburgh.

We mention the above simply to illustrate that they are quite familiar with the requirements of farmers in their farm buildings.

We send these men, at our own expense, to give instructions and show how work should be done, to any of our patrons who may wish them to come and start their work.

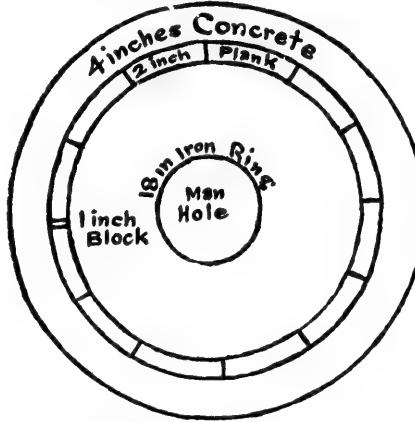
They have directed among others the doing of the following work, with the greatest of satisfaction to the several parties whose names are mentioned, and who will be pleased to testify to the same, and give information to any enquirers :

- Beswetherick Bros.—barn floors—Hagarsville, Ont.
- A. Mehlenbacher—barn floor—Kohler, Ont.
- Henry & Son—storehouse floor—Oshawa, Ont.
- Samuel Kennedy—barn floor—Uxbridge, Ont.
- Geo. Smith & Son—barn floors—Grimsby, Ont.
- W. F. Young—barn floors—Dunlop, Ont.
- Chas. E. Brown—basement wall for barn—Corinth, Ont.
- John McRae—floors and basement walls—Kintyre, Ont.
- William Paling—stable floors—Tyneside, Ont.
- Thomas Bell—stable floors—Glanford Station, Ont.
- Andrew Mitchell—stable floors—Canfield, Ont.
- Peter Zimmerman—stable floors—Jordan, Ont.

How to Build Cisterns WITH THOROLD CEMENT

Dig the ground out to a true circle and to the depth required. Then take 10 or 12 in. plank, bevel their edges, and stand them on end, so as to leave 4 in. between plank and ground. Have the plank so as to have an inch space left between the last two plank you put in, so you can put inch blocks between them. Put a wire around the top and twist it up firm, which will hold the plank to their places. Now fill in with concrete to height of plank ; bring the wall up all around the cistern at the same time, so as to keep the plank plumb. After wall is built stand up four 2 x 4 pieces in cistern and lay some boards across, and fill in on these boards with earth in cone shape. Cover this earth with paper or old cloth to keep the concrete from mixing with the earth ; now fill in with concrete 6 in. thick. Put an eighteen-inch iron ring in the centre for a man-hole. After a day or so take out the earth, and by using a pinch-bar you can take out the inch blocks, which will loosen your plank. Then put in the bottom 2 in. thick. By using some pure Cement like thin batter and a white-wash brush, you can fill in all small holes that are left in the wall. Be sure to get the cistern in ground below frost.

PLAN FOR CISTERN



How to Build Cellar Floors WITH THOROLD CEMENT

Level off ground to proper grade ; have floor lower next the drain ; then lay down a 2 x 4 flat-ways about 2 ft. from wall ; fill in with concrete to level of scantling and ram the concrete well ; float it off with a wooden float or steel trowel. Then move back your 2 x 4 another 2 ft. and fill in the concrete again until cellar is completed. By using the 2 x 4 you can keep the floor true and level.

**Read the Following Testimonials from Some
of the
Many Farmers
Who have used our Thorold Cement**

KERWOOD, ONT., DEC. 22, 1896.

*To the Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: Having used your Thorold Cement in my concrete dwelling this last season, I found it a success, and most satisfactory in every particular, and equal to if not better than any Canadian Cement that I have ever used. I raised my planks 3 feet one day, part of it being a single plank. Would prefer the wall to any brick wall.

Having run out of Thorold Cement, and not being able to wait until you could send me more, I used some other cement, and must say that the Thorold Cement gave me the best satisfaction.

JOSEPH HARRIS,
Kerwood,

Township of Adelaide,
Middlesex Co.

ELGIN CO., ONT., OCT. 26, 1896.

*Estate of John Battle,
Thorold, Ont.*

I have much pleasure in testifying to the excellency of your Thorold Cement for building purposes. I built concrete basement under my barn 36 x 55 x 8 feet high from bottom of foundation ; footing for foundation, 18 in. deep and 20 in. wide ; footing of concrete above foundation, 14 in. thick at bottom and 12 in. thick at top. I also built a wing to barn 15 feet wide, same length as barn, with concrete foundation 2 feet high. I have used 93 barrels of Cement and 46 loads of gravel. I mixed five parts gravel to 1 part Cement. The walls are hard and dry. I can strongly recommend your Thorold Cement to all farmers who want first-class basements for stabling.

Yours truly,

JOHN MCRAE,
Kintyre P. O. (Elgin Co.)

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KINTYRE, ONT., NOV. 3, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: In reply to your letter in reference to my foundation built this spring of your Thorold Cement, I will say that I am well pleased with it in every respect. I would advise any person to use your Thorold Cement, as I consider it the cheapest and best Cement that has as yet been introduced in this part.

DOUGALD CURRIE,

Ridney P. O. (Elgin Co.), Ont.

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WARDSVILLE, ONT., OCT. 16, 1896.

*Estate of John Battle,
Thorold, Ont.*

GENTLEMEN: In reply to your enquiry in reference to your Thorold Cement, I have to say: During the past season I laid in a foundation for drive-house, and later I used some under a stable. Up to the present time I am thoroughly pleased with it, and have not the least fear as to its future. Quite a number have used it in this vicinity for the first this season, and all I have spoken to are well satisfied with it, and purpose using it for various buildings in the coming year. It is my intention during the coming season to put in floors under the cattle with your Thorold Cement, as I am persuaded that it is cleaner, always dry, more durable and much cheaper than any kind of wood or brick flooring I can use. I have never used any other kind of Cement, but a few here who have speak more highly of your Thorold Cement as being somewhat stronger, not needing to use quite so much cement to the gravel, and not inclined to crumble as some others do if not carefully used.

Yours truly,

E. G. HACKER.

The undersigned have used your Thorold Cement as below stated, and are entirely satisfied with it:

John McGregor—cellar and foundation—Wardsville P. O.

D. McLean—foundation to barn—Crevin P. O.

A. Fisher—stable floors—Clahan P. O.

Dugal Campbell—cellar, floors and foundations—Wardsville P. O.

D. Johnson—floors—Clahan P. O.

E. G. Hacker—foundations to drive-house—Wardsville P. O.

Wm. Fisher—floors—Clahan P. O.

AVON, ONT., APRIL 15, 1896.

*Mr. H. Chambers,
Hardware Merchant,
Springfield, Ont.*

DEAR SIR: I received yours of 10th, and in reply would say I have used the Battle Thorold Cement under my barn in 1891, and was well pleased with it. I would recommend it to any person. I ran out of the Battle Thorold Cement and used other Cement to finish, but I liked the Battle Thorold Cement best, as it would set so much quicker, and I believe make a better wall.

I remain Yours,

ANGUS MCINTYRE,
Township of Dorchester,
Middlesex Co.

WARDSVILLE P. O., OCT. 20, 1896.

*Estate of John Battle,
Thorold, Ont.*

GENTLEMEN: Agreeable to your request as concerning my experience with your Thorold Cement during the past season, I have to say I put in a cellar and foundation under my house with it, following your printed instructions, and used no expert labor. We had no difficulty in following instructions furnished with the Cement, and are very much pleased with the results, as it has proved to be a fine, strong wall. The cellar has hardened up and is dry. I believe the Thorold Cement will have an increasing demand here: it is so cheap compared with stone, brick or wood. I am so far so well pleased with it that the coming season I expect to use more of it in the way of stables, raising up my buildings, building under, and using cement walls and floors. Wishing you every success with your Thorold Cement, I remain, etc.,

JOHN MCGREGOR,
Cherry Hill Farm,
Township of Aldborough,
Middlesex Co.

A Mammoth Barn

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On the back cover of this pamphlet is a photo-gravure of the mammoth barn and silo raised July 3rd, 1896, on the beautiful farm of Beswetherick Bros., adjoining the town of Hagersville, lot 14, con. 12, township of Walpole, Haldimand county, Ont.

The dimensions of the barn are 60 x 120 feet. The basement is a substantial stone wall 26 inches thick and 11½ feet high, and required 120 cords of stone in its construction. The masonry was performed by Messrs. Anderson & Idington of Hagarsville.

In the basement is sufficient stabling for 25 horses and 40 cattle. The outside posts are 18 feet; the inside, or purline posts, 36 feet high; and the total distance from the ground to the ridge of the roof is about 57 feet. In the centre of the building will be erected a silo 18 feet in diameter and 30 feet high. The carpenter work was done by Mr. George Smith, Hagarsville. About 300 persons were present, and over 200 took part in the raising of this enormous structure.

Beswetherick Bros. farm on modern principles—200 acres of land—and also engage extensively in the export of horses to Liverpool and other British ports.

Cement floors both for horses and cattle were put in this barn with Battle's Thorold Cement.

WELLAND, ONT., APRIL 24, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: We have been contemplating building a very large cellar above ground, 100 x 125 feet. We shall use stone, and would like to know if you could furnish several hundred barrels of your Thorold Cement at short notice. As you are aware, we have purchased large quantities of you almost every year, and we find it gives every satisfaction—even in the walls of greenhouses, which is a good test of its quality.

Yours truly,

MORRIS, STONE & WELLINGTON,
Fonthill Nurseries.

NIAGARA FALLS SOUTH, ONT., APRIL 27, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: In reply to your note of enquiry as to my experience in the use of your Thorold Cement: Privately, I have had twenty years' experience. I have several large cisterns in connection with my wine cellar, built without stone or brick, simply plastered on ground, covered by Cement, arch twelve feet over top, on which I frequently drive my horses. They give me perfect satisfaction. Publicly, we have used your Thorold Cement in building arches and stone culverts throughout the townships ten years to my knowledge. The only Cement we buy now for such work is from the "Thorold Hydraulic Cement Mills," which is the strongest proof I can give of public satisfaction.

Wishing you the continued success you so richly merit for developing such a deserving enterprise in our midst, I remain

Very truly yours,

J. HARRISON PEW,
Warden Co. of Welland.

CULLODEN, ONT., APRIL 28, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: I purchased some of your Thorold Cement of Mr. H. Chambers, hardware merchant, of Springfield, for building cellar under brick house last summer, and it gave general satisfaction.

Yours truly,

R. DILLAN,
Culloden,
Norfolk Co.

KOHLER, ONT., DEC. 7, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: My concrete floor is as hard as freestone, and I will recommend your Thorold Cement to any who may want to use Cement.

Yours truly,

A. MEHLENBACHER,
Kohler,
Haldimand Co.

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JORDAN, LINCOLN CO., NOV. 19, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: In reply to yours of the 19th inst. I beg to say that I had my stable floor put in my barn 50 x 52 in 1894 by your builder, H. W. Hagar. I used your Thorold Cement for same, and it has proved satisfactory in every way. I can recommend your Thorold Cement being of good quality for such work.

I remain yours, etc.,

PETER ZIMMERMAN,

Jordan, Lincoln Co.

AYLMER, ONT., MAY 5, 1896.

H. Chambers,

*Agent Battle's Thorold Cement,
Springfield, Ont.*

DEAR SIR: I highly recommend Battle's Thorold Cement, as it makes a first-class foundation, does not crumble or crack, and stands the frost exceedingly well.

Yours truly,

JOSEPH HARP,

Aylmer, Elgin Co.

FENWICK, JAN. 1, 1897.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: I beg leave to testify to the good quality of Thorold Cement. Two years ago I put in a concrete floor in my hog pen 36 x 50 feet. I made the floor 3 in. thick. In using all the large gravel I could it only took 18 bbls. of Cement. It is as hard as stone, and has never broken up in any place after two years' trial. I think I have the best and cheapest floor in the neighborhood.

I remain yours, etc.,

F. H. STIRTZINGER.

Importer and Breeder of Registered Poland China Hogs.

**Read the Following Testimonials from Some
Builders and Contractors
who have used our Thorold Cement**

FENWICK, ONT., Nov. 4, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: I have used your Thorold Cement on all kinds of work, such as bank barns, silos, cisterns, pig-pens, cement floors, culverts, bridges, and for concrete structures, and it cannot be beaten. I must say I think it is the strongest Cement made in Canada if it has a fair trial.

Wm. F. HAIST,
Fenwick, Ont.

The following is a list of some of the farmers, and the work I have done for them and their P. O. addresses :

Samuel Fry—bank barn 40 x 60 x 9 feet—Jordan, Ont.
Ira Swayze—bank barn 42 x 56 x 9 feet—St. Johns, Ont.
Jacob Fretz—hog house 24 x 40 x 8 feet—Jordan Station, Ont.
Dr. Birdsall—house cellar and floor—Fenwick, Ont.
Morris, Stone & Wellington—reservoir 8 x 41 x 7 feet—Fonthill, Ont.
Brown Bros.—water tank 12 x 14 x 10 feet—North Pelham, Ont.

I remain yours,
W. F. HAIST,
Mason and Builder,
Fenwick, Welland County.

WHEATLEY, ONT., Oct. 13, 1896.

*Estate of John Battle,
Thorold, Ont.*

In the township of Romney is a tunnel 1,100 feet long, and 4 feet 8 inches in diameter. It was built in 1890, and the Cement is as hard as stone. I was employed by the township to oversee the work. I have used the Thorold Cement in building barn basements, in concrete, and in mortar for laying stone and brick, culverts, stable floors, verandah floors,

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cisterns and bridge butments, and in every form it gave the best of satisfaction. I have used other cements, but I consider the Thorold Cement superior to any of them. The tunnel goes through a gravel ridge, and is used for draining part of the township.

Yours truly,

L. P. BURNS,

Mason and Builder,

Wheatley, Kent County.

Estate of John Battle,

Thorold, Ont.

DUNBOYNE, ONT., Oct. 28, 1896.

I herewith hand you a list of buildings and other works in our vicinity in which I have used your Thorold Cement, and it gave in every case the best of satisfaction :

Barn wall basement—Calvin Brown, Esq.—Brownsville.
Foundation wall—E. B. Brown—Brownsville.
House cellar wall—Taylor Sowler—Aylmer.
Barn wall basement—Taylor Sowler—Aylmer.
Cellar wall—John Heffer—Mt. Salem.
Silo wall—N. C. Brown—Dunboyne.
Cellar wall and cistern—Wm. Smithson—Dunboyne.
Stable floors—Geo. P. Brown—Dunboyne.

This is to certify that I have used Cement made by the Estate of John Battle of Thorold with my mixing machine, and find it in every way satisfactory.

GEO. P. BROWN,

Practical Builder,

Dunboyne.

Patentee of "Wonder Mortar Mixer."

Estate of John Battle,

Thorold, Ont.

HAMILTON, ONT., Oct. 22, 1896.

GENTLEMEN: I have used large quantities of Thorold Cement on different kinds of work, and have always found it to work with perfect satisfaction.

ERSKINE SMITH,

Contractor.

TORONTO, ONT., JAN. 30, 1896.

*Estate of John Battle,**Thorold, Ont.*

GENTLEMEN: We used in the construction of the "Soo" Canal upwards of 20,000 barrels of Thorold Cement from the Battle Estate at Thorold, and we have no hesitation in saying that the Cement gave satisfaction in every particular.

Yours truly,

HUGH RYAN & Co.,

Contractors,

Sault Ste. Marie Canal

ST. CATHARINES, OCT. 5, 1896.

*Estate of John Battle,**Manufacturers of Hydraulic Cement,**Thorold, Ont.*

GENTLEMEN: We have been using your Thorold Cement constantly for twenty years, and it has always given good satisfaction. We would recommend it as a first-class Hydraulic Cement.

We herewith hand you a list of buildings and other works in which your Thorold Cement has been used by us, giving in every case the best of satisfaction:

High school building—Niagara Falls, Ont.

South wing of Loretto Convent—Niagara Falls, Ont.

St. Patrick's Church—Niagara Falls, Ont.

Mr. A. J. Langmuir's residence—Niagara Falls, Ont.

Niagara Falls Metal Works Co.'s Factories—Niagara Falls, Ont.

McKinnon, Dash & Hardware Co.'s factories and wheel pits—St. Catharines, Ont.

Willson Carbide Works—wheel pits and foundations—Merritton, Ont.

Canadian Haircloth factory—foundations and buildings—St. Catharines, Ont.

Raceways and foundations for Welland Vale Mfg. Co.—St. Catharines, Ont.

Foundations and buildings for Lincoln Paper Co.—Merritton and St. Catharines, Ont.

Canadian Colored Cotton Mills—buildings and foundations—Merritton, Ont.

NEWMAN BROS.,

Contractors and Builders,

St. Catharines,

Ontario.

30, 1896.

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GIBSON'S QUARRIES, BEAMSVILLE, ONT., NOV. 10, 1896.

*Estate of John Battle,**Thorold, Ont.*

GENTLEMEN : It gives me the greatest pleasure to testify to the good qualities of the Thorold Hydraulic Cement.

During the past thirteen years I have bought it almost exclusively, having used between 45,000 and 50,000 barrels in building the masonry of the St. Clair Tunnel at Sarnia and in Port Huron, as well as many bridges and culverts on the Grand Trunk R'y System, the Lake Erie & Detroit River R'y bridges and culverts, many county bridges, as well as Section J of the Welland Canal ; and in each and every case it has met with the approval of the engineer in charge.

Yours faithfully,

WM. GIBSON,

Contractor.

HAMILTON, ONT., OCT. 3, 1895.

*Estate of John Battle,**Thorold, Ont.*

GENTLEMEN : I have used your Thorold Cement for the past twenty-five years for floors and cellars, and during that time have invariably found it first-class in every way, not having had a single failure with it.

JOHN HUMMEL,

Builder and Contractor.

**Read the Following Testimonials from Some
Prominent Dealers
who have used and who sell our Thorold
Cement**

TILSONBURGH, OCT. 21, 1896.

*Estate of John Battle,
Thorold, Ont.*

I herewith hand you a list of buildings and other works in which your Thorold Cement has been used, giving in every case the best of satisfaction :

Foundations and basement floors for flouring mill ; also walls for flume, 4 walls 24 ft. high, 5 ft. thick, holding 21 ft. depth of water perfectly tight, with two large iron pipes put through near the bottom connecting with the water-wheels ; a wall 120 ft. long, 24 ft. high, 4 ft. thick, to hold up the bank at the flouring mill. I also used it for foundation and wheel-pit walls and basement floors for oatmeal mill, a building 125 ft. x 40 ft., 5 stories high ; also basement stone and floor for elevator storehouse, house 40 x 40, 110 ft. high, brick and stone basement ; also for foundation walls of wheel pit and basement floor for pea and barley mill, 32 x 100 ft., 4 stories high. Also a wall for a mill-dam 12 ft. thick, 24 ft. high, 90 ft. long, with 26-foot head of water against it. Also for a building for power house for waterworks and tower, a stone and brick building 120 ft. high, 26 x 40 ft., three basement stories 10 ft. each, and 8-foot wheel-pit below, that being built in a gully and banked up 40 feet on two sides of it, with a building adjoining 50 x 70 ft., three stories high, stone and brick, foundation wall at one end 10 feet below the water level.

I may say that the 12-foot thick wall for mill-dam was of concrete, filled in a timber crib with gravel and small stones, taking 1200 barrels of Cement.

Besides the above, I have used cement in a great many other buildings—some of them very large—for foundations and basement floors ; 12 stores, 22 x 84 ; a lot of dwelling houses and barn basements and floors ; brick barn and cow stable, 75 x 125 ft., 36 ft. high, brick and stone basement 10 feet, with cement floor whole size, with five silos 40 feet deep ;

stone and brick walls 2 feet thick, all plastered with Cement—some with Portland, some with Thorold and other Cements.

I have used nearly all of the different brands of cement sold in Canada, both Portland and water lime cement, having built a great many sidewalks, for which I used both English and German Portland cement and some Canadian Portland; but in water-lime cement I have used mostly the Thorold Cement made by your firm and predecessors.

So you will see that I have had a good deal of experience in the use of cement, having probably used more than any other single man, for his own use, in Ontario.

I forgot to say that I have used the water-lime cement for building large stone culverts for water to pass through under roadways in deep gulleys, under 16 feet of water and 40 feet of earth. And, besides, a great many other buildings and uses, more than I can enumerate.

The greater part of my cement was bought from the late John Battle. Although I have had a good many car-loads from other firms, I think the Thorold Cement is the best for general purposes.

Yours truly,

E. D. TILLSON,
Tilsonburg, Ont.

WINDSOR, ONT., OCT. 12, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIR: We have handled your Thorold Cement for twenty years, and in all that time have never had a complaint about it. It has always given entire satisfaction.

We herewith hand you a list of buildings and other works in which your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction:

In all of Messrs. Walker & Sons' buildings.

Windsor Post Office.

The Hotel Dieu.

Collegiate Institute.

Home of the Friendless.

Ouellette-ave. Sewer—the largest in the city.

Mercer-street Sewer.

Yours truly,

ODETTE & WHERRY,
Windsor, Ont.

RIDGETOWN, Nov. 23, 1896.

*Estate of John Battle,
Thorold, Ont.*

DEAR SIRS: We have sold several cars of your Thorold Cement, and our customers all speak of it in the highest terms. We used a large quantity of it in building the foundation of our large elevator, and after two years we find it in first-class condition. We have no hesitation in recommending it.

We herewith hand you a list of buildings and other works in which your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction:

Wm. Hamil—Foundation under barn.
David Kinsey—Foundation under house.
J. Moisley—Foundation under house.
J. & W. McMaster—Electric Light Works.
Leslie English—Barn foundation.
J. E. Thatcher—House foundation.
Jas. Wright—House foundation.
Watson Bros.—House foundation.
Robert Hall—House foundation.
M. Bright—House foundation.

Yours truly,

ELLIOTT & Co.

STOUFFVILLE, Nov. 9, 1896.

*Estate of John Battle,
Thorold, Ont.*

I herewith hand you a list of buildings and other works in which your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction:

Isaac' Reamanis—House; also hog-pen.
Jonas Berger—House.
R. Sangster—Barn wall.
Mr. Meyers—Barn wall and house.
Mr. Prine—Wall under grist-mill.
A. Lehman—House.
Mr. Mighswander—House and barn wall.

We built a house several years ago. Then there are cellar floors and stable floors, all of which have given the very best of satisfaction.

Yours truly,

JOEL BAKER.

23, 1896.

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HAMILTON, ONT., OCT. 5, 1896.

*Estate of John Battle,
Thorold, Ont.*

GENTLEMEN: We have sold during the past few years a great many car-loads of your Thorold Cement, and all of our customers have had the best of satisfaction in using it. In fact, we think we are safe in saying we have never had any complaints from any person who has used it. We have used large quantities for floors at our fertilizer factory, and always with excellent results.

We find this season a number of our customers, who have been in the habit of putting a top dressing of Portland over Thorold for cellar floors, are now using Thorold alone, and they claim it makes as good a floor as when Portland is used, while the cost is considerably less.

Thorold Cement is the most satisfactory article we handle, always being uniform in quality and sure to give satisfaction.

We herewith hand you a list of buildings and other works in which your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction:

Ferguson-Ave. and Stuart-St. Sewers—2,000 barrels.

Garth-street Sewer—700 barrels.

Stanley Mills & Co.'s buildings—250 barrels.

Hog-pens—F. W. Fearman.

Hamilton Distillery—Floors.

East-end Incline Railway—Foundations.

W. A. Freeman Co., Ltd.—Floors.

Yours very truly,

THE W. A. FREEMAN CO., LTD.

Hamilton, Ont.

SARNIA, OCT. 20, 1896.

*Estate of John Battle,
Thorold, Ont.*

I have been selling for the past twenty years Battle's Thorold Cement, which is considered by all using it as superior to other Canadian and American cements. Over ten years ago we put in a large basement warehouse floor, facing river front, for freight, being over three thousand square feet, and it is as perfect now as can be.

W. B. CLARK,

Customs House Wharf,
Sarnia, Ont.

MONTREAL, OCT. 22, 1896.

*Estate of John Battle,
Thorold, Ont.*

I herewith hand you a list of buildings and other works in which your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction :

Montreal Street Railway—Office Building.

Bell Telephone Co.—Conduit work.

General trade.

Yours truly,

ALEX BREMNER.

BERLIN, ONT., OCT. 21, 1896.

*Estate of John Battle,
Thorold, Ont.*

We hereby testify that your Thorold Cement has been used in our vicinity, giving in every case the best of satisfaction.

The Berlin Gas Co. have used some three cars of your Cement this fall.

All our local contractors used it from me also, and they seem well pleased with the same.

Yours truly,

R. BOEHMER,

Berlin, Ont.

DUNNVILLE, ONT., APRIL 17, 1897.

*Estate of John Battle,
Thorold, Ont.*

GENTLEMEN : I have sold Battle's Thorold Cement for a number of years, and have always found it to give the very best satisfaction, and can highly recommend it.

Yours respectfully,

JAMES ROLSTON.

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Read this Testimonial from**The Reeve of Oakville**

OAKVILLE, JAN. 16, 1897.

*Estate of John Battle,**Manufacturers of Thorold Cement,**Thorold, Ont.*

DEAR SIRS: Thorold Cement was used in the construction of Aberdeen swing bridge, town of Oakville, and it has given perfect satisfaction.

C. J. MARLATT, Reeve,

Chairman of Bridge Committee 1894.

Read this Testimonial from**Beswetherick Bros.****Hagersville**

HAGERSVILLE, JULY 1, 1897.

Estate of John Battle.

DEAR SIRS: Having used your Thorold Cement in our stable floors, which were put in last fall under the supervision of your Mr. Ward Hagar, we must say it has given us good satisfaction in every particular. Our floors are as hard as stone.

We clean our stables by driving a team and wagon through the stable on the concrete behind our stock, and load the manure on the wagon. We can truly say it is just perfection for stable floors.

Yours, Etc.,

BESWETHERICK BROS.

How to Estimate

on Work in which Thorold Cement is to be Used

The following will give an idea of the quantities of material—Cement and gravel—required for concrete work for barn walls and floors:

We select for example a barn 40 ft. x 60 ft., with walls 9½ ft. high, including 20 in. x 20 in. footings.

For the walls (14 in. at bottom, 12 in. at top), 22 cords gravel and 78½ bbls. of Cement will be required.

For the floors (3 in. thick), 4 cords gravel and 36 bbls. Cement will be required.

So, taking these figures for a basis, a fairly reliable estimate can be arrived at of the quantity of Cement and gravel that would be required for a barn floor of any size, no matter how large or small.

The above figures are for solid work, and all openings put in walls would take so much less material.

By using all the broken stone or brick-bats that can be used in walls and floors, it will take about one-third less Cement and gravel.

How We Ship

Our Thorold Cement is shipped in barrels, in jute bags, and in paper bags. Two (2) jute bags make a barrel, and three (3) paper bags make a barrel.

Each barrel contains 240 lbs. Cement.

Each jute bag contains 120 lbs. Cement.

Each paper bag contains 80 lbs. Cement.

Our Travellers

R. J. Battle, N. B. Hagar and H. Ward Hagar will be pleased to call on any buyers of Thorold Cement and show them how to use it. They will also call on any parties who intend using Cement and give them reliable estimates of quantity required, and other useful information.

Our Guarantee

The faithful carrying out of our printed instructions will always ensure success, but we cannot assume that every one who uses our Cement will so carry them out.

We are prepared to guarantee any work done with our Thorold Cement when such work is done under our superintendence.

Our guarantee is to simply refund any money that has been paid us for any Cement used in work we superintend that does not prove satisfactory.

ESTATE OF JOHN BATTLE,
Manufacturers of
The Thorold Cement,
Thorold, Ont.

Practical Hints

—to—

Users of Thorold Cement

Never attempt to build concrete walls during frosty weather. Experience has shown that after Nov. 1st it is not safe to do such work before the following summer.

Concrete floors may be built with safety after Nov. 1st, providing the frost can be kept from the work.

Concrete work done in very warm weather should be kept damp for a couple of weeks after being built.

All concrete work should be well rammed, as ramming increases its strength very much.

The gravel and Cement should be thoroughly mixed dry before any water is applied.

Great care should be taken to have the gravel free from loam or dirt, as such is a great detriment to the strength of concrete walls and floors.

Cement work should not be tampered with after setting has begun.

Where sand is used, sharp sand with clean water is always the best. Loamy sand is a great enemy to good Cement.

Cement and lime should not be used together in the same mortar.

Good Cement may be drowned by an excess of water. The less water the better mortar.

We have Testimonials from the following prominent Engineers, in approval of the quality of our Thorold Cement, copies of which will be sent on application:

JOHN PAGE, ESQ.,

Chief Engineer Dominion of Canada.

THOS. MONRO, ESQ.,

Engineer in charge Soulanges Canal.

W. G. THOMPSON, ESQ.,

Engineer in charge New Welland Canal.

P. A. PETERSON, ESQ.,

Chief Engineer Canadian Pacific Railway.

J. C. BAILEY, ESQ.,

Chief Engineer Northern Pacific Junction R. R.

JOSEPH HOBSON, ESQ.,

Chief Engineer Grand Trunk Railway System.

The following leading Railways of the country all used our Thorold Cement in construction:

GRAND TRUNK RAILWAY,

CANADIAN PACIFIC RAILWAY.

MICHIGAN CENTRAL RAILWAY.

CREDIT VALLEY RAILWAY.

ONTARIO AND QUEBEC RAILWAY,

WELLAND RAILWAY,

GREAT WESTERN RAILWAY,

NORTHERN PACIFIC JUNCTION RAILWAY,

NIAGARA FALLS AND QUEENSTON ELECTRIC RAILWAY,

T. L. AND B. RAILWAY.

**Thorold Cement and Portland Cement were the only Cements used in the Work referred to below—namely,
the Kingston Graving Dock:**

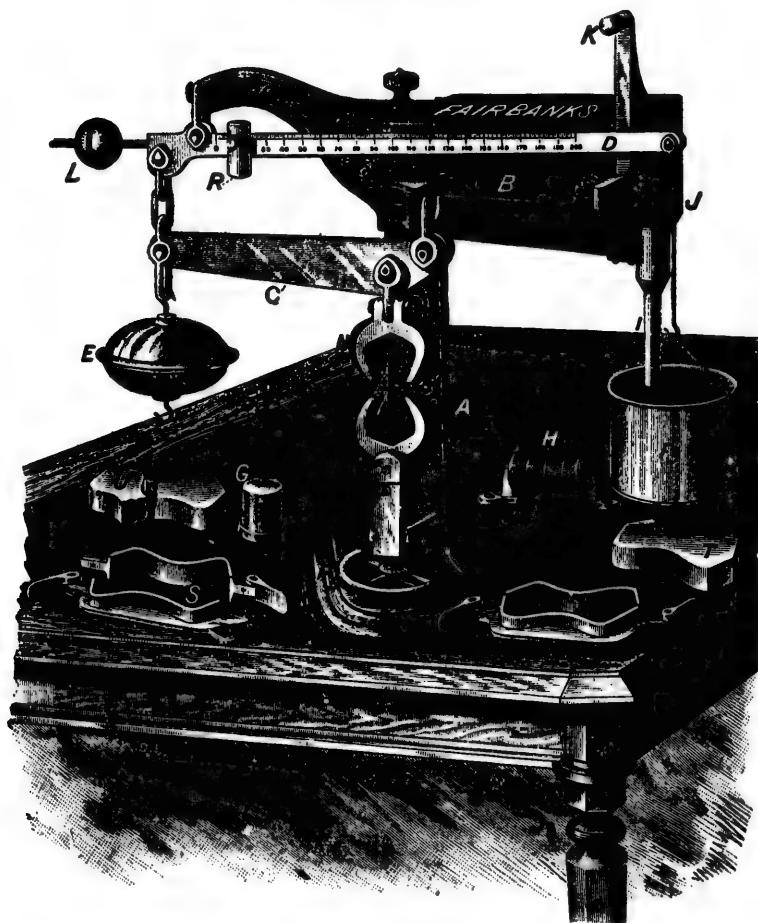
Natural Cement Tests

Tests of Cement made by the Government during progress of Work at Kingston Graving Dock, 1891, by Louis Coste, Acting Chief Engineer, Ottawa.

Thorold was the Only Canadian Natural Cement used in this Work	Time in water	THOROLD CEMENT	Queenston Cement	Napanee Cement	2,000 Barrels Thorold Cement used in Kingston Graving Dock
		177.10 270.40 297.50	189.90 240.10 248.80	104.40 187.00 193.10	
Test with 1 per cent salt in water for tensile strain.	30 days 60 days 90 days	189.60 201.60 243.60	172.40 183.10 224.40	110.80 115.50 130.00	
Test with 8 per cent salt in water for tensile strain.	30 days 60 days 90 days	386.90 203.50 217.10	160.20 183.50 230.80	126.80 138.00 152.40	
Test with 3 per cent salt in water for tensile strain.	30 days 60 days 90 days	323.10 331.70 344.30	164.40 175.80 189.30	197.60 207.30 218.50	

FAIRBANKS'

Patent Improved



AUTOMATIC

Cement-testing Machine

NO. 3184

CAPACITY 1000 LBS.

SIZE, 22x9 IN.

Our Cement-testing Machine

On the opposite page is a perfect cut of the Machine we use in testing our Cement.

This machine has no springs or hydraulics to get out of order, but is constructed with levers and pivots, strictly on the principle of the most improved weighing apparatus. The action is strictly automatic, and requires no handling while the test is being made, thereby avoiding danger in sudden jarring, which might break the specimen before its strength is reached.

For the benefit of those who may be interested in the working of the machine, we submit the directions given by the makers of the Tester for using it, which directions we carefully follow out in making our tests, thereby insuring accuracy and reliability.

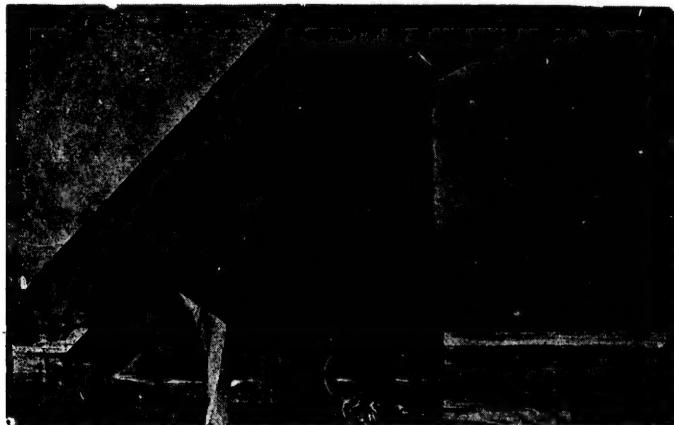
Directions for Using

To make the specimen, lay the brass mould on a smooth board, fill it with Cement and strike it off even on top. When hard enough, loosen the fastenings at the ends of the mould and carefully take the mould away from the specimen. Hang the cup F on the end of the beam D, as shown in the illustration. See that the poise R is at the zero mark, and balance the beam by turning the ball L.

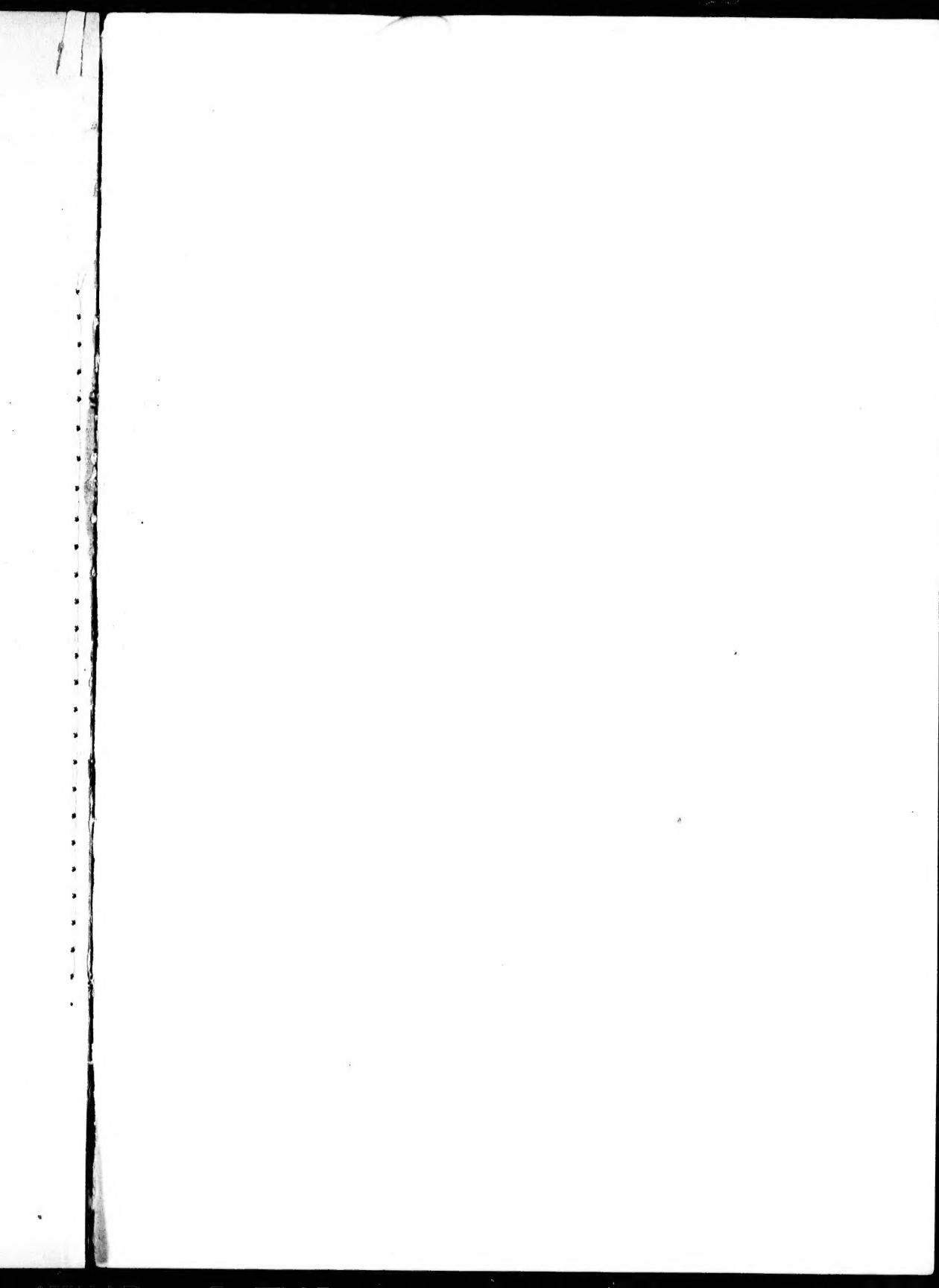
Place the shot in the hopper B, the specimen in the clamps N N, and adjust the hand wheel P so that the graduated beam D will rise nearly to the stop K. Open the automatic valve J so as to allow the shot to run slowly. Stand back and leave the machine to make the test.

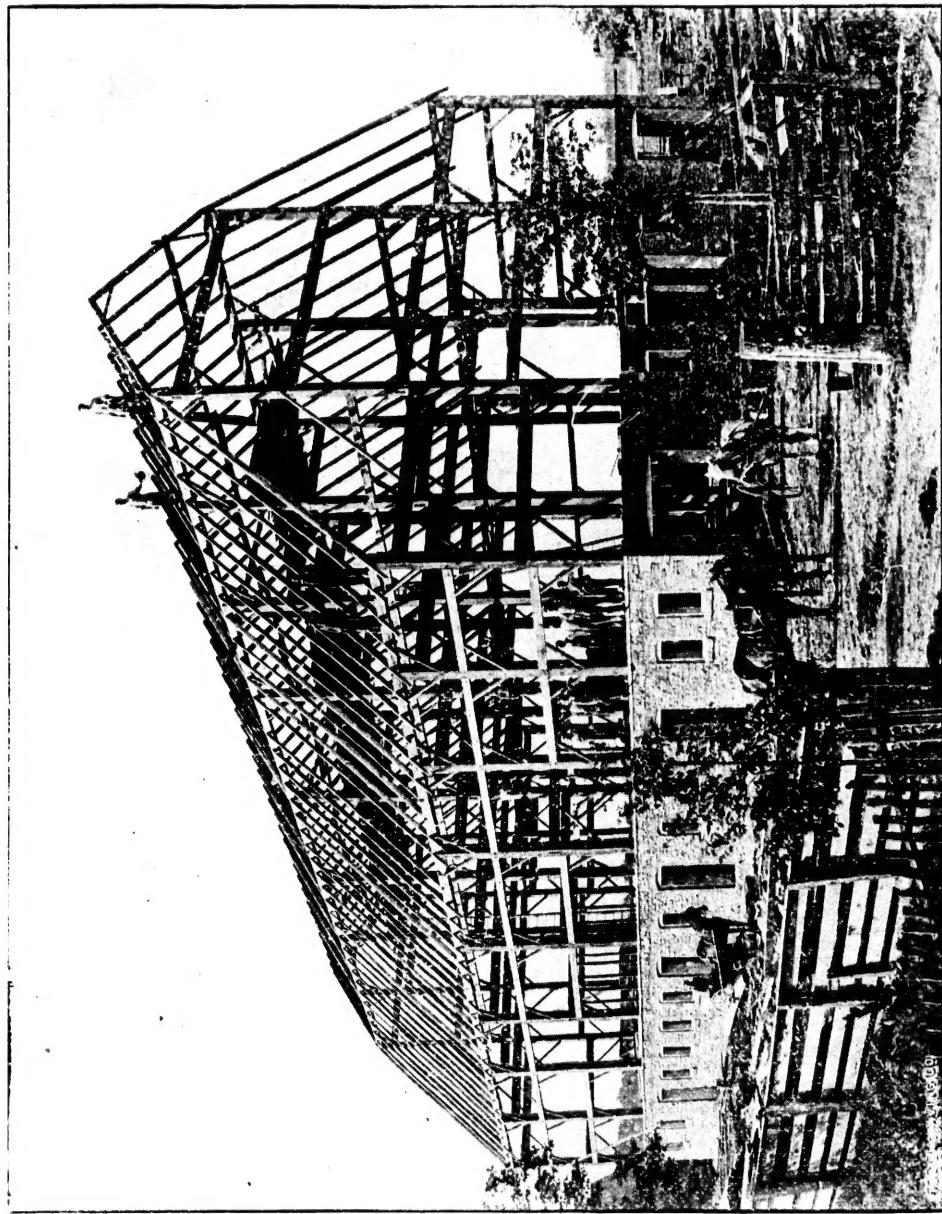
When the specimen breaks, the beam D drops and closes the valve J. Remove the cup with the shot in it and hang the counterpoise weight G in its place. Hang the cup F on the hook under the large balance ball E, and proceed to weigh the shot in the ordinary way, using the poise R on the graduated beam D and the weights H on the counterpoise weight G. The result will show the number of pounds required to break the specimen.

Victoria Tubular Bridge over the St. Lawrence River



Built with Thorold Cement





MAMMOTH BARN OF BESWETHERICK BROS., NEAR HAGARSVILLE, ONT. FLOORS FOR HORSES
AND CATTLE WERE PUT IN THIS BARN WITH BATTLE'S THOROLD CEMENT.
(SEE PAGE 19)